47960-1

BUSINESS IN NEBRASKA

October 1985
Vol. 41, No. 493

Prepared by the Bureau of Business Research, 200 College of Business Administration, University of Nebraska, Lincoln, NE 68588-0406, 402/472-2334

AN AGRICULTURAL ALTERNATIVE?

FRUIT AND VEGETABLE PRODUCTION IN NEBRASKA

Falling grain prices. Sluggish cattle markets. Depressed land values. These and other factors plaguing Nebraska farmers in the past years are widespread and far reaching. Foreclosure actions and government policy changes have precipitated a crisis in the Nebraska agriculture community. Economists, politicians, academicians, and others propose a variety of cures for the malaise of Nebraska farmers and ranchers. These proposals run the gamut from a government bailout to increased diversification of the state's industries. This edition of *Business in Nebraska* details one suggested solution for the state's ag woes: an increased role in the state economy of fruit and vegetable production.

Factors necessary to strengthen the Nebraska food industry are identified. The article also examines trends that will affect state producers and processors in the next five years. Ways in which different segments of the food industry can strengthen Nebraska's position in the global marketplace are presented.

The move toward diversity in the state ag sector is a laudable one; relying solely on traditional crop and livestock production in the 1980s may place farmers and ranchers in a perpetual boom and bust syndrome. But the transition to new crops will not be without problems. New crops call for new technology, new production methods, new marketing strategies, and new processing procedures. The coming years pose a test of the ability of growers in Nebraska to expand and diversify to the fruit and vegetable field.

FRUIT PRODUCTION

Historically fruit has played a large role in the state food industry picture. In the mid to late 1800s, fruit of many varieties flowered throughout the state--apples, peaches, pears, apricots, strawberries, blackberries, cherries, grapes, and plums were among the state's bounty. According to the annals of the State Horticultural Society, fruit trees planted between 1854 and 1882 topped the 12 million mark. Nebraska and other midwestern states were the staple source of the nation's apples, with annual state harvests ranging from 200,000 to 300,000 bushels.

High corn prices, severe freezing weather, an increase in mechanized agriculture and the resulting ease in growing row crops contributed to the demise of the fruit industry in Nebraska. California growers now provide a large share of crops previously produced in the state. Fruit growing in Nebraska is too limited to warrant any mention in U.S.D.A. fruit production statistics. Fruit growers, while scattered throughout the state, are concentrated in the eastern third of Nebraska. Production is limited primarily to apples, cherries, strawberries, and raspberries.

A new breed of fruit farmer is emerging in the state, however. Pick-your-own strawberry and apple farms are sprouting in the eastern counties in the state. There has been also a slight resurgence of commercial orchards. Fruit acreage has doubled since 1979, according to the University of Nebraska-Lincoln Horticulture Department, to levels currently over 500 acres. Fruit producers have branched into related subsidiaries; in one instance, jams and jellies are manufactured from native fruits.

The regrowth in the Nebraska fruit industry is not a panacea for current farm ills. Most fruit requires labor intensive, skilled production. Apple trees, for example, need expert pruning and six or seven years to bear mature fruit. Experts caution that harvesting and marketing of fruits differ greatly from those of corn; mature fruit worth $200 a ton may be worth $20 a ton one day later. Even the relatively simple pick-your-own operations can be troubled by customers who eat the fruit they are supposed to harvest, damage to plants from improper picking, and lack of sales in unseasonably hot or cold weather.

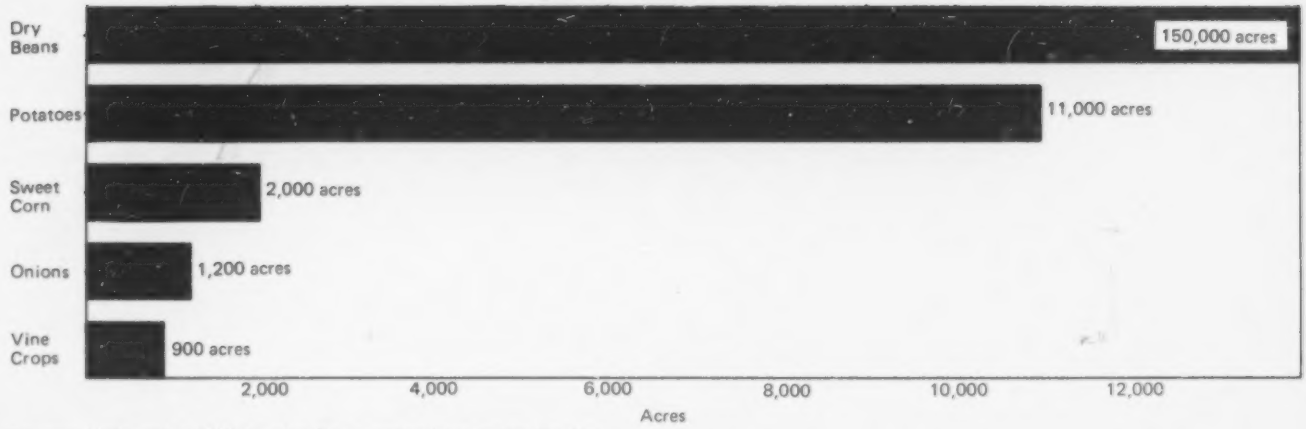
VEGETABLE PRODUCTION

Despite the state's abundant water, sandy soil, and suitable climate for vegetable production, over 96 percent of the vegetables that Nebraskans consume is imported from sites as distant as California and Guatemala. Lured by the possibilities of $5,000 per acre profits, local farmers are expanding from traditional vegetable crops such as dry edible beans, potatoes, and watermelons to so-called specialty crops such as onions, carrots, cabbage, lettuce, broccoli, and cucumbers.

Vegetable growing demands the same labor intensive production as fruit growing. Seedbed preparation, cultivation work, irrigation scheduling, and harvesting and marketing timing require a radical departure from grain farming methods. Alternative crops may necessitate new technology. For example, broccoli transplanted from greenhouses thrives much more than broccoli planted directly in the field, according to University of Nebraska Panhandle Research and Extension Center officials. Vegetable

(continued on page 2)

Figure 1
Vegetable Production in Nebraska
Acres Planted in 1984



Source: University of Nebraska Cooperative Extension Service

(continued from page 1)
production may also be hampered by the lack of federal price supports and acreage controls that the government accords more traditional crops.

Developing a market for alternative crops may be the greatest challenge to Nebraska farmers. Some producers find it best to start small, selling through roadside stands or through direct sales to local grocers. The profits of such small operations are limited; size is a prerequisite for large profits. Nebraska farmers face stiff competition, however. California, Texas, and Florida, who garner a majority of the fruit and vegetable market, provide stiff resistance to the inroads of small growers. Only growers with top quality products at competitive prices can thrive. Producers must form coalitions and learn every facet of the field. Panhandle growers, for example, have formed a vegetable growers cooperative to streamline individual marketing efforts.

It is imperative that growers target a market accurately. Inaccuracy can lead to the equally perilous pitfalls of the spoilage of overabundance or the inability to meet contracted amount specifications. Some growers have improved their marketing through processing. Stromsburg, Nebraska area developers, for instance, have purchased planting, harvesting, sorting, and packing equipment in conjunction with a local onion grower. The onion operation could be further improved, growers and businessmen feel, with the addition of dicing and freezing equipment. Panhandle vegetable growers have established a processing operation, where produce is individually quick frozen. Storage and processing facilities have been constructed also in the Grand Island and Wahoo areas. Volume sales (and greater profits) are available only if growers can provide a constant, year round supply. Producers, therefore, must expand their operations to include long term storage of food goods.

The history of vegetable production in the state is a long one. In the 1960s, food manufacturers experimented with suppliers in the Kearney area. Farmers' enthusiasm for vegetables dampened when many first time growers failed to profit. Ag observers blame most problems of the 1960s growers on overproduction and limited markets. To avoid the disappointments of that era, growers must stress marketing and processing.

Food finishers are moving further from the initial processing. In California, for example, growers own an estimated 90 percent of all processing equipment. This trend necessitates increased capital investment from growers in conjunction with community support and government grants. Swelling merchandising requirements face producers--food finishers demand high quality, competitive prices, and increased processing.

Growers are further distanced from food finishers by food brokers. Food brokers function as order takers. They are the key market individuals who match producers and finishers. To attract and satisfy the needs of brokers, growers must adapt a three pronged merchandising strategy; they must provide fresh fruits and vegetables, they must process to meet market demands, and they must use storage facilities to meet demand over a longer time period.

Vegetable farming, with its glittering profit opportunities, is also prone to nightmarish headaches. Although the field has profit potential, vegetable and fruit growing also is vulnerable to weather and financing problems that face grain farmers as well. Much research and individual initiative are required for a profitable vegetable growing operation.

NEBRASKA FOOD PROCESSING CENTER

Contrary to conventional wisdom, Nebraska climate and conditions are well suited to fruit and vegetable growing. To be financially successful, however, fruit and vegetable operations need to evolve processing and marketing strategies. Early attempts at vegetable production ended often in disaster; in one instance, an onion grower was forced to discard two-thirds of his onion harvest due to a lack of a market. Other small businesses in the Nebraska food industry encountered similar problems. The Nebraska Food Processing Center at the University of Nebraska Institute of Agriculture and Natural Resources was created to subvert the obstacles confronting each individual producer and to match the needs of producers and processors.

The Nebraska Food Processing Center coordinates processing of crops and livestock into foods and food ingredients through

(continued on page 3)

(continued from page 2)
commodity development. Horticulturists connected with the Center recommended a certain breed of onion with production grade qualities of onions imported to the state from Texas and California to Nebraska growers. This strain of onion is suitable for use as onion rings. Other varieties were selected for Panhandle growers that are tailored for use in Campbell Food's frozen LeMenu dinners, which are manufactured in Omaha.

The Food Processing Center makes process research and development and systems evaluation affordable for the small scale food processor. The Center has discovered new and more efficient uses for Nebraska produce; conversion of cheese whey to protein products and uses for waste water from cooked cereal are under investigation.

Through a unique product referral system, the Center links the state's 400 food processors, 350 food brokers and distributors, and the numerous ranks of agriculture grain, vegetable, and fruit producers. Center staffers feel that if the export of commodities from the state can be stemmed, growth will be generated for the Nebraska economy. A goal of the group is to eliminate intermediaries between producers and processors; in one case, the Center was able to connect a Nebraska cheese producer who had been exporting cheese to Wisconsin to a local pizza manufacturer who had been importing cheese from Wisconsin. Through efforts of the Center, similar situations have been eliminated in the fruit and vegetable areas.

Packaging, promotion of national and international markets, personnel development and information dissemination are provided by the Center. The Center is a nonprofit consortium of specialists at the Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln, and the Nebraska Department of Economic Development. Clients range from small family farms to food industry giants.

One of the most important factors in profitable fruit and vegetable production, the Center feels, is the ability of growers to work cooperatively. With the exception of potato growers (with the french fry and potato chip industries), fruit and vegetable producers have sold traditionally fresh produce in direct markets. Center marketing specialists urge growers to band together and to develop long term storage units to facilitate year round delivery in quantity.

For more information, write the Food Processing Center, University of Nebraska-Lincoln, 134 Filley Hall, Lincoln, Nebraska, 68583-0919, telephone 402/472-2819.

NEBRASKA FOOD INDUSTRY ASSOCIATION

The Nebraska Food Industry Association, a group comprising producers, retailers, brokers, processors, packagers, consultants, and financial advisors, was formed to improve communication within the industry and to develop and promote Nebraska food products in the national and international market. The Association plans to develop a common state food logo to strengthen Nebraska food goods identification.

The organization feels that the industry needs to implement an improved food transportation and distribution network. Individual firms can benefit, they believe, from more shared transportation and a better understanding of freight rate structures.

Changing consumer eating patterns pose a challenge to the Nebraska food industry. The industry needs to respond to consumer demands for ethnic foods, more poultry, better quality, higher nutritional value, and more convenience foods. Production techniques, management strategies, and alternative crop production must be flexible to enhance growth of state food producers and processors.

Federal and state mandates and controls also concern the group. Export barriers limit Nebraska food producers' opportunities, while food imports encroach on domestic markets of state

(continued on page 6)

Recommendations

Reprinted from An Analysis of the Potential for Establishment of a Vegetable Canning Industry in Nebraska October, 1963, University of Nebraska College of Agriculture and Home Economics

1. Expanded efforts must be directed toward determining the long run commercial yield of vegetables in Nebraska. Unless commercial yields above minimum competitive levels are attainable, farmers in Nebraska will continue to produce established crops rather than vegetables.

2. The production of canning crops under contract would be a new experience for most Nebraska crop producers. Potential grower acceptance of such contracts with various arrangements should be explored in order to find which alternatives appear best suited to conditions and grower psychology in Nebraska.

3. After studies have shown which vegetables could effectively compete with established Nebraska crops and could be marketed at price and quality levels in competition with other canning areas, then detailed costs should be computed for model plants designed to process these vegetables.

4. The potential for pay-out of model plants should be explored on the basis of projected market conditions. Such conditions would include trends in canning as a form of processing, shifts in geographic areas devoted to production and processing of vegetables, and shifts in population and transportation costs.

5. The strength of the fruit and vegetable industry in some areas of the country is based apparently on the availability of alternative marketing outlets. Investigations should be made concerning the potential for other types of vegetable processing in Nebraska, including conventional freezing, freeze-drying, and dehydrofreezing.

Review and Outlook

The Nebraska economy performed an about face during June 1985. Output for the nonagriculture sector declined 1.6 percent on a month-to-month basis as measured by the Bureau of Business Research's physical volume index. In comparison, nonagriculture output increased 1.3 percent during May 1985.

Statistics required to calculate monthly changes in economic activity for the agriculture sector remain unavailable. The index of agriculture prices received by Nebraska farmers, however, declined 1.3 percent in June 1985 and has fallen almost 12 percent since June 1984. The declining index of farm prices received is clearly indicative of low commodity prices that add to the woes of a struggling Nebraska farm economy.

All sectors of the state economy contributed to the drop in nonagriculture activity during June. Respective monthly declines in the physical volume index for construction and government were 8.6 percent and 4.5 percent. (Construction activity increased 9.7 percent in May.) Lesser declines in June 1985 output were recorded for the distributive sector (0.7 percent) and the manufacturing component (0.4 percent).

Compared to the sales level of June 1984, total dollar volume retail sales declined 6.4 percent during June 1985. When adjusted for price changes, total sales decreased 8.3 percent. An examination of the components of total sales indicates that motor vehicle sales dropped a sizable 17.3 percent on a dollar volume basis

(continued on page 5)

Notes for Tables 1 and 2: (1) The "distributive" indicator represents a composite of wholesale and retail trade; transportation, communication and utilities; finance, insurance, and real estate; and selected services. (2) The "physical volume" indicator and its components represent the dollar volume indicator and its components adjusted for price changes using appropriate price indexes—see Table 5, page 5.

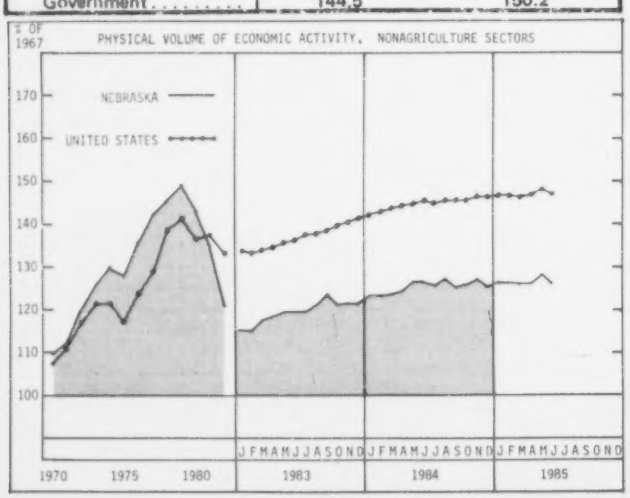
ECONOMIC INDICATORS, NEBRASKA AND UNITED STATES

1. CHANGE FROM PREVIOUS YEAR

June 1985	Current Month as Percent of Same Month Previous Year		1985 to date as percent of 1984 to date	
Indicator	Nebraska	U.S.	Nebraska	U.S.
Dollar Volume	NA	NA	NA	NA
Agricultural	NA	NA	NA	NA
Nonagricultural	103.7	105.0	105.4	105.9
Construction	92.7	108.7	95.3	107.6
Manufacturing	98.5	98.7	101.8	101.2
Distributive	104.7	106.7	105.5	107.3
Government	111.0	106.8	114.0	106.8
Physical Volume	NA	NA	NA	NA
Agricultural	NA	NA	NA	NA
Nonagricultural	100.1	101.5	101.9	102.5
Construction	89.6	105.1	92.0	103.8
Manufacturing	99.0	98.2	101.9	100.7
Distributive	101.0	102.8	101.7	103.5
Government	101.7	101.3	104.9	101.5

2. CHANGE FROM 1967

	Percent of 1967 Average	
Indicator	Nebraska	U.S.
Dollar Volume	NA	NA
Agricultural	NA	NA
Nonagricultural	377.5	449.1
Construction	293.9	456.4
Manufacturing	377.2	321.9
Distributive	384.3	517.7
Government	400.8	456.3
Physical Volume	NA	NA
Agricultural	NA	NA
Nonagricultural	126.2	147.4
Construction	82.3	127.9
Manufacturing	152.2	125.8
Distributive	119.2	160.6
Government	144.5	150.2

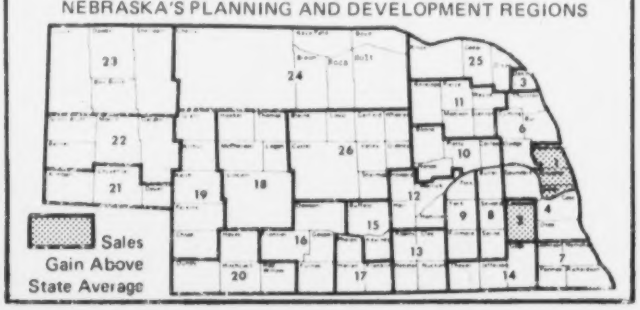


3. NET TAXABLE RETAIL SALES OF NEBRASKA REGIONS AND CITIES

Region Number[1] and City	City Sales[2] June 1985 as percent of June 1984	Sales in Region[2] June 1985 as percent of June 1984	Sales in Region[2] 1985 to date as percent of 1984 to date
The State	95.3	93.6	100.3
1 Omaha	101.8	96.9	106.2
Bellevue	104.1		
Blair	103.3		
2 Lincoln	99.2	99.6	104.2
3 So. Sioux City	95.3	92.9	100.1
4 Nebraska City	94.4	92.1	94.2
6 Fremont	103.2	95.3	95.7
West Point	101.8		
7 Falls City	90.8	88.8	94.2
8 Seward	90.0	92.7	90.6
9 York	97.4	93.9	93.7
10 Columbus	92.7	87.6	92.4
11 Norfolk	95.8	89.2	95.7
Wayne	70.1		
12 Grand Island	91.8	89.8	96.4
13 Hastings	90.2	87.4	93.8
14 Beatrice	94.8	90.3	92.9
Fairbury	94.0		
15 Kearney	90.6	87.4	93.2
16 Lexington	98.8	89.4	91.8
17 Holdrege	82.2	84.4	89.6
18 North Platte	93.0	93.6	93.1
19 Ogallala	90.4	94.2	90.7
20 McCook	94.2	93.3	94.4
21 Sidney	108.2	96.4	99.4
Kimball	82.5		
22 Scottsbluff/Gering	95.5	93.1	97.7
23 Alliance	95.4	94.5	97.9
Chadron	95.3		
24 O'Neill	85.8	87.6	92.7
25 Hartington	85.8	84.5	91.3
26 Broken Bow	88.1	85.2	91.9

[1] See region map below.
[2] Sales on which sales taxes are collected by retailers located in the state. Region totals include motor vehicle sales; city totals exclude motor vehicle sales.
Compiled from data provided by Nebraska Department of Revenue.

1985 TO DATE AS PERCENT OF 1984 TO DATE IN NEBRASKA'S PLANNING AND DEVELOPMENT REGIONS



(continued from page 4)

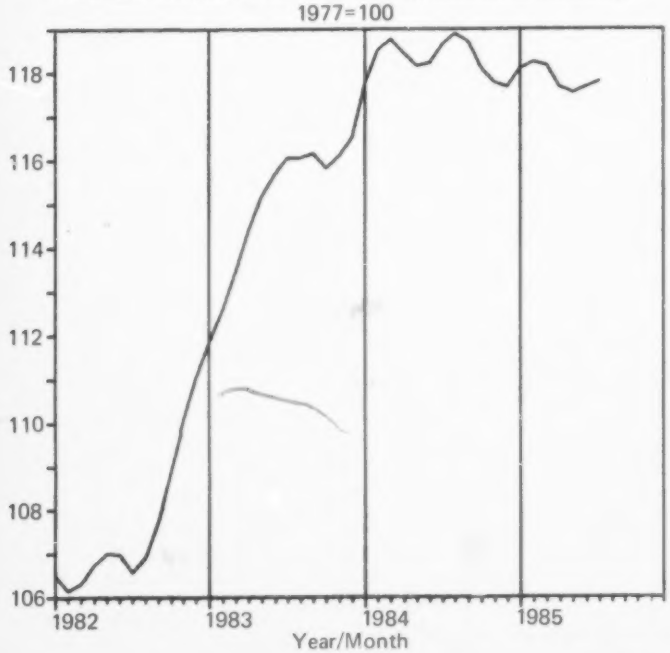
(18.4 percent price adjusted); dollar volume nonvehicle sales fell 4.7 percent (6.8 percent price adjusted).

The Bureau's city business index shows that only five of the twenty-six cities listed recorded positive changes in business activity during June 1985 as compared to June of the previous year. Building activity has vaulted Chadron to the top of the list again (+17.3 percent), followed by gains in Blair, Sidney, Fremont, and Fairbury. Although above the state change in business activity (-3.5 percent), both Lincoln and Omaha now register on the negative side of the business index scale.

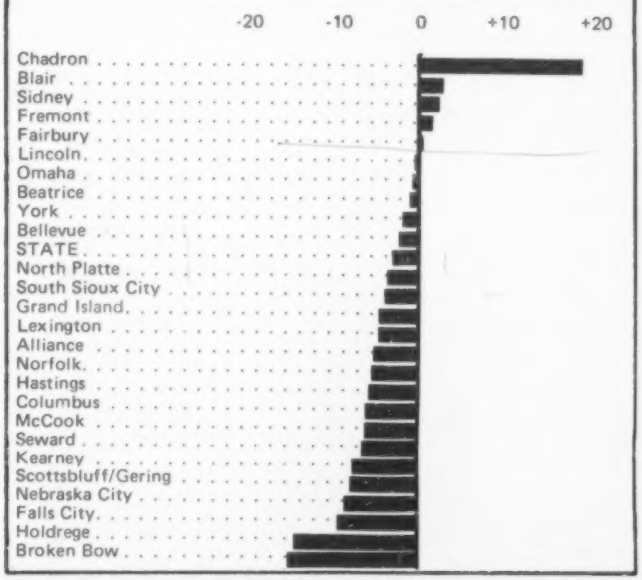
The Nebraska composite index of leading economic indicators increased slightly during June and July 1985, as illustrated by the graph below. A seasonally adjusted decline in initial claims for unemployment insurance and gains (also seasonally adjusted) in construction contracts and average weekly earnings in manufacturing were primarily responsible for the growth in the composite indicator. Two consecutive increases do not clearly indicate in which direction the economy is moving. If the leading index posts a rise in August, however, improvement in the state economy could lie ahead.

CHARLES L. BARE

Nebraska Composite Index of Leading Economic Indicators
1977=100



CITY BUSINESS INDEX
Percent Change June 1984 to June 1985



5. PRICE INDEXES

June 1985	Index (1967 = 100)	Percent of Same Month Last Year	Year to Date as Percent of Same Period Last Year*
Consumer Prices	322.3	103.7	103.7
Commodity component	286.9	102.2	102.3
Wholesale Prices	309.5	99.4	99.7
Agricultural Prices			
United States	230.0	88.5	91.1
Nebraska	222.0	88.1	91.2

*Using arithmetic average of monthly indexes.
Sources: Consumer and Wholesale Prices: U.S. Bureau of Labor Statistics; Agricultural Prices: U.S. Department of Agriculture.

4. June 1985 CITY BUSINESS INDICATORS

The State and Its Trading Centers	Percent of Same Month a Year Ago: Employment[1]	Building Activity[2]	Power Consumption[3]
The State	99.5	95.0	96.8
Alliance	98.1	77.9	89.9
Beatrice	99.0	180.1	100.1
Bellevue	99.6	58.3	113.7
Blair	99.7	151.8	94.1*
Broken Bow	99.8	17.2	110.2
Chadron	100.8	6,239.3	89.9*
Columbus	95.6	109.1	97.8
Fairbury	99.1	241.9	95.6
Falls City	100.1	42.4	88.6
Fremont	100.3	117.6	96.2*
Grand Island	99.3	107.5	94.5
Hastings	99.8	94.7	127.2
Holdrege	100.3	31.2	94.3
Kearney	99.8	69.1	95.7
Lexington	97.6	66.5	83.3
Lincoln	100.8	120.4	100.2
McCook	99.2	67.9	91.9
Nebraska City	99.2	41.5	93.6
Norfolk	99.1	67.6	83.4
North Platte	99.6	106.5	92.9
Omaha	99.7	93.6	97.3
Scottsbluff/Gering	99.9	43.5	134.2
Seward	99.5	92.7	99.9
Sidney	98.6	101.0	103.8
So. Sioux City	98.8	91.2	100.6
York	98.9	115.7	100.7

[1] As a proxy for city employment, total employment for the county in which a city is located is used.
[2] Building Activity is the value of building permits issued as spread over an appropriate time period of construction. The U.S. Department of Commerce Composite Construction Cost Index is used to adjust construction activity for price changes.
[3] Power Consumption is a combined index of consumption of electricity and natural gas except in cases marked * for which only one is used.

Source: Compilation by Bureau of Business Research from reports of private and public agencies.

(continued from page 3)

products. Initiative 300, which restricts ownership of agricultural land in Nebraska, and taxation are further impediments to the state food industry. A stable long term federal ag policy and uniform enforcement of regulation and deregulation are necessary for the economic well being of the industry, according to many of its members.

High interest rates and financing problems plague many processors and producers. Some feel that traditional financing does not provide a broad enough base for current and future industry needs. New sources of capital (such as venture capital firms or pools, equity capital from local investors currently renting money to coastal markets, and more creative and flexible terms for plant expansion) are under exploration.

For further information about the Nebraska Food Industry Association, contact Cal Campbell, President, in care of International Spices, 322 South Main, Elkhorn, Nebraska 68022, 402/289-2019.

SUMMARY AND CONCLUSIONS

Inflated farmland values, overburdened agricultural finances, capital intensive monocultural farming and other factors have contributed to a crisis in Nebraska agriculture. Farmers in the state are searching for solutions to current ag problems.

Fruit and vegetable production may pose a profitable alternative to grain and livestock for some. There is a potential for profit in fruits and vegetables as supplementary cash crops. But labor intensive production methods are necessary for fruit and vegetable production. Fruits and vegetables may also require concentrated marketing efforts. The individual farmers can succeed only if he or she is willing to work closely with other growers and producers. Vegetables do not offer a get-rich-quick scheme for farmers. And alternative farming is not for everyone.

Members of the state food industry are collaborating to strengthen state food production and processing. Business, government, and agriculture are fighting to protect Nebraska markets from foreign competition, from restrictive legislation, and from high cost inefficiency in transportation, utilization of local suppliers, and other threats.

It is important to note that diversification of Nebraska agriculture into fruits and vegetables will not rescue farmers and ranchers from current financial difficulties. It is an alternative that may aid some, but in the long run it is doubtful if the state will switch its role from that of a major grain and livestock producer to that of a major fruit and vegetable producer. Nebraska's distance from population centers will restrict the development of fruits and vegetables as cash crops. Nevertheless, it is important to consider these alternatives for diversification, as they may help some farmers make the transition through this difficult period.

MARGO YOUNG

BIBLIOGRAPHY

Estenson, Paul, "The Future of the Nebraska Food System," *Business in Nebraska*, 40, No 490 (July 1985).

Miller, Steve, "Vegetables May Provide Extra Slice of Monetary Pie," *Columbus Telegram* (July 30, 1985).

Mulvey, Mike, "Polk County Farmer Expects A Good Cry When He Harvests First Crop--Of Onions," *Lincoln Journal* (August 9, 1985).

Nebraska Agricultural Statistics, Nebraska Department of Agriculture.

"Nebraska Food Industry Association Formed," *Nebraska Economic Developments*, 2, No. 8 (August 1985).

Nebraska Food Processing Center, Nebraska Department of Economic Development (1984).

Proceedings: Nebraska Food Industry Forum, Food Processing Center, University of Nebraska-Lincoln (March 29, 1985).

Russo, Ed, "State Blossoming With Fruit Trees," *Lincoln Journal* (August 4, 1985).

"Specialist: Food Marketing Effort Could Aid State's Ag," *Nebraska Farmer* (March 16, 1985).

U.S.D.A., *Nebraska Census of Agriculture* (1982).

Warneke, Kent, "Ag Officials Say Nebraska Is Ripe For Vegetables," *Omaha World-Herald* (July 18, 1985).

Warneke, Kent, "Stromsburg Bets On Onion Crop," *Sunday World-Herald* (August 25, 1985).

Wilhelm, Mook, "Stromsburg Enterprises To Help Local Onion Grower," *The Headlight* .

BUSINESS IN NEBRASKA

PREPARED BY BUREAU OF BUSINESS RESEARCH

Member Association for University Business & Economic Research

Business in Nebraska is issued monthly as a public service and mailed free within the State upon request to 200 CBA, University of Nebraska–Lincoln, Lincoln, NE 68588-0406. Material herein may be reproduced with proper credit.

Address correction requested.

Vol. 41, No. 493 October 1985

UNIVERSITY OF NEBRASKA-LINCOLN
Martin A Massengale, *Chancellor*
COLLEGE OF BUSINESS ADMINISTRATION
Gary Schwendiman, *Dean*

BUREAU OF BUSINESS RESEARCH

Donald E. Pursell, *Director*
Charles L. Bare, *Research Associate*
Jerome A. Deichert, *Research Associate*
Douglas O. Love, *Research Associate*
Margo Young, *Editorial*

Non-Profit
Organization
U. S. POSTAGE
PAID
Lincoln, Nebr.
Permit No. 46

CONGRESSIONAL INFO SERVIC270238
* SRI BR
* 4520 EAST-WEST HWY
* BETHESDA, MD 20814

The University of Nebraska-Lincoln does not discriminate in its academic admission, or employment programs and abides by all federal regulations pertaining to same.